

REMARKS/ARGUMENTS

Claims 1-7 are active in this application, Claims 8-24 having been withdrawn by the Examiner due to restriction. Claim 1 has been amended to specify that the conductive polymer gel of the present invention comprises water in an amount from 66 weight percent to 98 weight percent. This amendment is supported by the specification at Examples 1, 9, and 12. No new matter has been added by these amendments.

The present invention relates to a conductive polymer gel which comprises water as a main component, along with a conductive conjugated polymer and at least one of a surfactant and an alcohol. In particular, the present invention gel is required to have water in an amount from 66 weight percent to 98 weight percent of the gel.

The conductive polymer gel of the present invention provides good conductivity even when exposed to an atmosphere at a temperature lower than the freezing point of water. Thus, the polymer gel can be used for variety of purposes requiring exhibition of a stable function under these severe conditions such as conductive gels having functionality including a response to electrolytic stimulation, response to moisture absorption, or heat sensitizing responses, particularly in electrolytes of cells.

Claims 1-5 and 7 stand rejected under 35 U.S.C. § 102(b) over Inganäs et al. Claims 1 and 3-7 stand rejected under 35 U.S.C. § 102(b) over Kim et al. Neither of these references disclose or suggest a conductive polymer gel having the required high level of water of the present invention.

Inganäs et al. relates to a polymer gel electrode which contains microgel particles dispersed in an aqueous medium. While the gel particles are dispersed in an aqueous medium, it is the gel itself whose water content is important with respect to the present claims. The composition of Inganäs et al. is a conductive polymer gel which contains a polystyrenesulfonic acid-doped polyethylenedioxythiophene, polyethyleneglycol, and

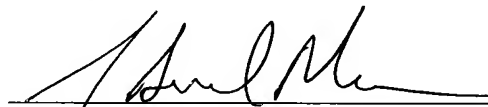
electrolyte such as an aqueous magnesium sulfate solution. However, this relates not to the gel but to a film as shown in the paragraph bridging columns 3 and 4. In particular, this film is formed with the water being evaporated in an oven and then the film being equilibrated using the aqueous magnesium sulfate solution and then washed with water. However, the resulting film will contain little or no water, and certainly will not contain the required 66 weight percent to 98 weight percent of water required in the present invention conductive polymer gel. There is nothing in Inganäs et al. to disclose or suggest a polymer gel having the required level of water of the present claims. Accordingly, Inganäs et al. cannot anticipate the present invention and cannot suggest such a high water content polymer gel.

Kim et al. discloses polythiophene-based conductive polymer liquid compositions. However, the compositions of Kim et al. are required to have **52-80 weight percent of alcohol** solvent, with the specific examples containing from 56-82% of alcohol solvent in the composition. Thus, even if the entire composition is considered to be the gel, there can be no more than 44% of water present in the composition. This is far short of the required 66-98 weight percent of water required in the present invention polymer gels and thus, cannot anticipate the present invention nor render it obvious since there is nothing within Kim et al. to suggest a composition having the high level of water of the present invention, which would necessarily require reducing the level of alcohol that Kim et al. states is required in their invention. As such, the rejection over Kim et al. should be withdrawn.

Applicants submit that the application is now in condition for allowance, and an early notification of such action is earnestly solicited.

Respectfully submitted,

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